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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,671	10/31/2011	Giuseppe Baddaria	DKT00140	2089

22242 7590 02/06/2003

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CHICAGO, IL 60603-3406

EXAMINER

STEFANON, JUSTIN

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 02/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/001,671

Applicant(s)

BADDARIA, GIUSEPPE

Examiner

Justin Stefanon

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3682

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 10-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 10-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Drawings***

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 12-15, 19, 22-25, 29, and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 12 and 22 recite the limitations "a maximum tooth flank radius  $r_e$  max and a minimum tooth flank radius  $r_e$  min" in line 4 and "a maximum tooth flank radius  $r_e$  max and a minimum tooth flank radius  $r_e$  min" on lines 7-8. It is unclear from the claims whether  $r_e$  max and  $r_e$  min are the same for both flank profiles.

Claim 15 and 25 recite the limitations "a maximum tooth flank radius  $r_e$  max and a minimum tooth flank radius  $r_e$  min" in lines 5-6. It is unclear from the claim whether  $r_e$  max and  $r_e$  min are the same as for the first and second flank profiles.

Claims 19, 29, and 32 recite teeth having differing tooth flank radii  $r_e$ , but according to the drawings, the radius  $r_e$  refers to the single flank radius of the conventional sprocket, whereas radius  $r_{en}$  refers to the radius of the nth tooth profile:

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e.g. claim 15 recites the first profile having flank radius  $r_{e1}$ , the second having radius  $r_{e2}$ , and the third having radius  $r_{e3}$ . The claim is rendered indefinite by the use of  $r_e$  to describe differing profiles, as  $r_e$  describes only a single profile. Therefore, in referring to the tooth flank radius of various teeth of the instant invention, as in claim 19 on line 4, in claim 29 on line 4, and in claim 32 on lines 5, 6, and 11, " $r_e$ " should be replaced with -- $r_{en}$ --.

Claim 32 further recites the limitation "a constant outer diameter  $d$  and a constant addendum circle diameter  $d_a$ " in line 16. In the specification, the dimension " $d$ " describes the pitch circle and the dimension " $d_a$ " describes both the outer diameter and the addendum circle diameter. It is unclear whether the pitch circle  $d$  is meant to be claimed as constant or only the outer diameter/addendum circle diameter  $d_a$ .

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, and 10-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Document No. 56-150655 to Iguchi.

Iguchi discloses a method of making a chain sprocket having teeth with three different flank profiles T0, T1, T2, as seen in Figures 3 and 7, with a constant spacing between seatings or roots, as seen in Figure 6. The roots receive rollers J of chain 5 and have a root radius and a constant root diameter, as seen in Figure 6. Each of the three flank profiles has a differing flank radius varying between a maximum and minimum tooth flank radius. The angle between the root radius and tooth flank radius inherently varies due to the varying pressure angles created by the differing flank radii,

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and the effective displacement of the line of tangency created thereby. The sprocket has a constant outer diameter and the chordal pitch is constant, as seen in Figure 6.


The teeth are symmetric as seen in Figure 3.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art includes various sprockets for chains utilizing randomized tooth flank profiles or varying tooth flank profiles. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Stefanon whose telephone number is 703-305-1945. The examiner can normally be reached on Monday - Thursday 6 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Bucci can be reached on 703-308-3668. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

  
DAVID A. BUCCI  
SUPERVISOR/EXAMINER  
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js  
January 31, 2003